Remarks

Claims 1-23 are currently pending in the patent application. For the reasons and arguments set forth below, Applicant respectfully submits that the claimed invention is allowable over the cited references.

In the non-final Office Action dated March 6, 2008, the following rejections are noted: claim 23 stands rejected under 35 U.S.C. § 112(2); claims 1-9 and 11-23 stand rejected under 35 U.S.C. § 102(e) over the Bryant reference (US Patent No. 6,856,073); and claim 10 stands rejected under 35 U.S.C. § 103(a) over the Bryant reference in view of the Yamamato reference (US Patent No. 4,600,076). The specification also stands objected to due to informalities.

Applicant respectfully traverses the Section 112(2) rejection of claim 23 because the limitation "structured surface," which the rejection is based upon, is clear and supported in the disclosure with examples. For instance, paragraph 0042 in the disclosure describes an example embodiment wherein a structured surface (to which claim 23 may apply) includes a surface having "piezoelectric layers separated from one another" in referencing FIG. 4. Another example embodiment at paragraph 0042 describes a structured surface as "a diaphragm 5 having "piezo elements" 20, 21, 22 and 23, 24, 25 respectively disposed on a plastics carrier film 5" in reference to FIG. 5. In this regard, the specification provides clear examples relating to the claim limitation "structured surface" is not ambiguous and indefinite as suggested in the Office Action. Applicant therefore requests that the Section 112(2) rejection be removed.

Applicant respectfully traverses the Section 102(e) rejection over the '073 reference because the asserted disclosure in the '073 reference does not correspond to the claim limitations as suggested in the Office Action. Specifically, the ferroelectric material surfaces 12A and 12B in FIG. 7 of the '073 reference are part of a monolithic slab of diaphragm 10 (*e.g.*, in FIG. 6); these surfaces 12A and 12B do not, as asserted in the Office Action, provide any correspondence to the claimed chamber walls. See, for example, the discussion at column 5:39-51 in the '073 reference which describes these surfaces and the monolithic ferroelectric slab that they are part of. Referring back to FIG. 1, the surfaces 12A and 12B, as part of ferroelectric material 12, make up part of the diaphragm 10. Relative to FIG. 6 and as described at column 5:14-20, this ferroelectric

material appears to be sandwiched between upper and lower electrodes 14 and 16, such that the surfaces 12A and 12B are covered. These surfaces 12A and 12B thus cannot form a "chamber" as claimed because they are outer surfaces of a structure (*i.e.*, of a diaphragm having solid material between the surfaces, and no space for any chamber as claimed).

In addition to the above lack of correspondence to any chamber, the Office Action also fails to provide correspondence to various other claim limitations, including those related to the claimed chamber and its walls. For instance, the '073 reference's purpose and its corresponding parallel arrangement and integration of its electrodes 14 and 16 with its diaphragm 12 (with a "surprising and contrary" result) is to apply a "symmetric, radially-distributed electric field ... perpendicular to the applied electric field" (*see* column 5:64-67). In this regard, the asserted electrodes 14 and 16 in the '073 reference are not located on chamber walls (*e.g.*, walls of housing 40) but instead are integrated with the diaphragm 12 as shown in FIG. 6. These electrodes 14 and 16 thus do not correspond to the claimed drive means with electrodes arranged on chamber walls (*e.g.*, as in claim 2). See, for example, the embodiment(s) shown in FIG. 2 having electrodes 2.1, 3.1 (and others) that are located on chamber walls 2 and 3, and that apply an electric field to deform a diaphragm 5 that extends between the chamber walls. The placement of the electrodes in the '073 reference, and the corresponding operation thereof thus do not correspond to the claimed invention.

Regarding the Section 103(a) rejection of claim 10, this rejection also relies upon the primary '073 reference and the Office Actions' mischaracterization of its teachings relative to the ferroelectric material surfaces 12A and 12B, and otherwise. In this regard, Applicant also traverses the Section 103(a) rejection for the reasons stated above in connection with the Section 102(e) rejection over the '073 reference. Applicant further traverses the Section 103 rejection because the cited chamber openings for dampening in the secondary '076 reference do not provide correspondence to the claimed medium openings (*i.e.*, the proposed combination does not provide correspondence to openings for a "medium stream." Moreover, the asserted motivation relies upon an assumption that dampening of pulsation is needed or can function with the '073 reference, but fails to discuss the application of the same and fails to show how the device in the '073 reference

could function as modified. Based upon the cited portions of the '073 reference, it would appear that the introduction of additional orifices would raise issues with the ability of the reference to function and achieve its purpose of accurately controlling the flow of fluid with a piezoelectric diaphragm. For instance, it is unclear as to how the '073 reference could accurately control fluid flow under such conditions). In this regard, the Office Action has not shown teaching or suggestion of all the limitations in claim 10, and the cited motivation and/or proposed combination lacks any evidence or support demonstrating a likelihood of success. The Office Action has therefore failed to establish a *prima facie* Section 103(a) rejection, and Applicant requests that it be removed.

Regarding the objection to the specification for incorporation of related applications, Applicant submits that such incorporation is implicit based upon the steps taken in filing the instant national application, including the documentation submitted therewith. Notwithstanding this, Applicant has amended the specification to include a reference to the priority documents as suggested by the Examiner. Applicant requests that the objection to the specification be withdrawn.

Regarding the Office Action's suggestion to add headings to the specification, Applicant respectfully declines because the indicated suggestions in 37 C.F.R. § 1.77(b) are not statutorily required for filing a non-provisional patent application under 35 USC § 111(a), but per 37 C.F.R. § 1.51(d) are only guidelines that are suggested for applicant's use. They are not mandatory, and in fact when Rule 77 was amended in 1996 (61 FR 42790, Aug. 19, 1996), Bruce A. Lehman, Assistant Secretary of Commerce and Commissioner of Patents and Trademarks, stated in the Official Gazette:

> "Section 1.77 is permissive rather than mandatory. ... 1.77 merely expresses the Office's preference for the arrangement of the application elements. The Office may advise an applicant that the application does not comply with the format set forth in 1.77, and suggest this format for the applicant's consideration; however, the Office will not require any application to comply with the format set forth in 1.77."

In view of the above, Applicant prefers not to add section headings and Applicant requests that the objection to the specification be withdrawn.

New claims 24-26 are allowable over the cited references for reasons stated above, in that the cited '073 reference fails to disclose a device having a diaphragm extending laterally and about perpendicularly between chamber walls. The '073

reference further fails to disclose such an arrangement with the diaphragm being responsive to electrodes located on the chamber walls, and for generating a medium stream in a direction that is about parallel to the chamber walls. Support for these new claims may be found, for example, in the original claims as filed, in FIG. 2 and in the discussion in the specification corresponding to FIG. 2, including discussion at paragraph 0035.

In view of the remarks above, Applicant believes that each of the rejections/objections has been overcome and the application is in condition for allowance. Should there be any remaining issues that could be readily addressed over the telephone, the Examiner is asked to contact the agent overseeing the application file, Peter Zawilski, of NXP Corporation at (408) 474-9063.

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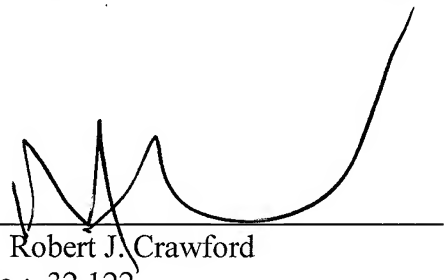
By: 
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